REMARKS

Claims 1-59 are pending. Claims 1-4, 6-18, 20-33, 35-46 and 56-59 are currently pending and under examination. The remaining claims 5, 19, 34 and 47-55 are withdrawn from consideration.

Rejection under 35 U.S.C. 112

The Examiner rejects claims 22-33 as allegedly unclear for failing to recite affirmative steps. Further, claim 1 recites "therapeutically effective amount" without referring to a condition, claims 2 and 57 recite "further comprises lysophosphatidylcholine" though "0-3%" and thus none can be present, claims 11, 25 and 38-39 recite "derived from a natural source" when lamellar bodies are made in a laboratory, claim 22 is unclear for reciting "solution," and claim 26 is unclear for reciting "mixture."

Applicants herein amend the claims to overcome these formality rejections. Claims 22-33 are not in a patentable format currently according to United States practice and therefore are canceled. The remaining offending recitations "therapeutically effective amount" and "derived from a natural source" are removed without affecting the scope of the claims. Claims 2 and 57 recite "further comprises up to about 3% by weight of lysophosphatidyl choline" so that some must now be present in these dependent claims.

Rejection under 35 U.S.C. 103

1. WO 91/12026 in view of Szoka, U.S. Patent 5,077,057 further in view of Sheffield *et al.*, U.S. Patent 4,937,254

The Examiner rejects claims 1-4, 6-18, 20-33, 35-44 and 56-59 as allegedly unpatentable over WO 91/12026 in view of Szoka, U.S. Patent 5,077,057 further in view of Sheffield *et al.*, U.S. Patent 4,937,254. According to the Examiner, WO 91/12026 teaches reducing surgical adhesions by coating tissue surfaces with phospholipids, including less pure phospholipids, in combination with hyaluronic acid. The Examiner says that it is obvious that this is a lamellar composition. The Examiner admits that WO 91/12026 does not teach the amounts of each phospholipid in the mixture but says that it would be obvious to optimize the relative amounts of each. Further, it would allegedly be obvious to use commercial lecithin in combination with the other phospholipids. In addition, the Examiner says the number of liposomes and administration protocol would be obvious absent evidence of unexpectedly superior results.

The Examiner says that Szoka teaches including cholesterol in liposomes to increase rigidity and encapsulating chemotherapeutic agents. Hence, it would allegedly be obvious to add cholesterol to the present compositions as well as chemotherapeutica agents. The Examiner says that Sheffield *et al.* teach inhibiting post surgical adhesion by topically administering liposomes containing phosphatidylcholine and cholesterol in combination with hyaluronic acid. According to the Examiner, it would be obvious that the preparations of WO 91/12026 would be in the form of liposomes since Sheffield *et al.* teach liposomes are formed by adding an aqueous medium to phospholipids.

Applicants respectfully traverse. The term "lamellar body" is a specific, well defined scientific term which would not be considered by one skilled in the art to encompass structures such as liposomes or to encompass general references to phospholipids without any reference to their structure, or to surfactants which are known to exist in many forms. Furthermore, the term “liposome” and “lamellar body” are not interchangeable. “Lamellar bodies” are detectable only by electron microscopic examination of body tissues. They consist of a solid microbody containing tightly packed phospholipid bilayers arranged in a fashion similar to the layers of an onion. Occasionally, lamellar bodies may contain a dense osmiophilic core. Lamellar bodies typically contain no central cavity, and consist of microspheres, ellipsoids, toroids or rods which are solidly packed with phospholipid bilayers. This is a recognized three-dimensional geometry known as dupin cyclides. Lamellar bodies as defined in this manner appear in the title in over 1,700 papers which have been published since 1964, indicating that the use of the term “lamellar bodies” in the manner described herein is a well established scientific term. In short, “lamellar body” is a term denoting a microbody which is not the same as or similar in function to either the meaning or properties of “liposomes” or “phospholipid constructs.” Claim 1 of the instant application recites the parameters claimed for producing a "lamellar body", and alternative compositions would not have the structure so closely associated with a lamellar body.

The Examiner indicates that WO91/12026 does not teach that the compositions are in the form of lamellar bodies and there is no teaching of combining an amount of the constituents to form a lamellar body. Moreover, Applicants submit that there is no teaching or suggestion that the compositions are in the form of lamellar bodies. In particular, there is no teaching or suggestion that a lamellar body (defined here by its constituents) would have any useful therapeutic benefits at all. Previously, lamellar bodies had only been considered as inactive carriers.

Regarding Szoka, the Examiner states that including cholesterol increases rigidity. In liposomes this is generally considered to be beneficial, however in lamellar bodies only a relatively low percantage of cholesterol is incorporated in order to retain the fluidity of the lamellar body structure. In addition, Szoka teaches liposomes which act as carriers rather than lamellar bodies which themselves have therapeutic benefit according to the present invention.

As such, the references, even when combined do not teach all the features of the present invention. Hence, the Examiner has failed to set forth a *prima facie* case of obviousness.

2. Sheffield *et al.*, U.S. Patent 4,937,254 in view of WO 91/12026

The Examiner rejects claims 1-4, 6-18, 20-33, 35-46 and 56-59 as allegedly unpatentable over Sheffield *et al.,* U.S. Patent 4,937,254 in view of WO 91/12026. The Examiner admits that Sheffield *et al.* do not teach using phosphatidylethnolamine, phosphatidyl inositol, phosphatidylserine, phosphatidyl glycerides and sphingomyelin in liposomes. However, the Examiner says that including the claimed phospholipids would have been obvious since WO 91/12026 teaches that the combination of phospholipids act synergistically.

Applicants respectfully traverse the rejection. Sheffield *et al.* do not teach or suggest using a lamellar body, only various liposome compositions. It would certainly not be obvious when combining Sheffield with any of the other prior art to move from standard liposome composition to the structurally specific lamellasome composition of the present invention. As such, the references, even when combined do not teach all the features of the present invention and hence do not constitute a *prima facie* case of obviousness.

3. Sheffield *et al.*, U.S. Patent 4,937,254 in view of WO 91/12026 further in view of Vournakis, U.S. Patent 5,624,679

The Examiner rejects claims 16-18, 31-33, and 44-46 as allegedly unpatentable over Sheffield *et al.,* U.S. Patent 4,937,254 in view of WO 91/12026 further in view of Vournakis, U.S. Patent 5,624,679. According to the Examiner, Vournakis teaches that chemotherapeutic agents and anti-estrogens (tamoxifen) may be included in anti-adhesion (poly-acetylgalactosamine) compositions. Hence, the Examiner says that combining these agents would have been obvious.

As set forth, *supra*, Sheffield *et al.* do not teach or suggest using a lamellar body, only various liposome compositions. It would certainly not be obvious when combining Sheffield *et al.* with any of the other prior art to move from standard liposome composition to the structurally specific lamellasome composition of the present invention. As such, the references, even when combined do not teach all the features of the present invention and hence do not constitute a *prima facie* case of obviousness.

4. WO 91/12026 in view of Szoka, U.S. Patent 5,077,057 optionally in view of Sheffield *et al.*, U.S. Patent 4,937,254 further in view of Vournakis, U.S. Patent 5,624,679

The Examiner rejects claims 16-18, 31-33, and 44-46 as allegedly unpatentable over WO 91/12026 in view of Szoka, U.S. Patent 5,077,057 optionally in view of Sheffield *et al.,* U.S. Patent 4,937,254 further in view of Vournakis, U.S. Patent 5,624,679. Basically, the Examiner says that combining chemotherapeutic and anti-estrogens with the agents for anti-adhesion would have been obvious.

As set forth, supra, WO 91/12026 does not teach or suggest using a lamellar body. It would certainly not be obvious when combining WO 91/12026 with any of the other prior art to move from standard liposome composition to the structurally specific lamellasome composition of the present invention. As such, the references, even when combined do not teach all the features of the present invention and hence do not constitute a *prima facie* case of obviousness.

Rejection under the judicially created doctrine of obviousness type double patenting

The Examiner rejects claims 1-4, 6-18, 23-33, 35-46 and 56-59 as allegedly provisionally unpatentable as obvious over copending claims 1-15 of United States Serial No. 10/827,172. Applicants submit their willingness to file a Terminal Disclaimer upon notification of allowable subject matter.

FEES

No additional fees are believed necessary in connection with the present submission; however, should this be in error, authorization is hereby given to charge Deposit Account No. 11-1153 for any underpayment or to credit any overage.

CONCLUSION

It is believed that all of the claims are patentable and early notification as such is earnestly solicited. If any issues may be resolved by way of telephone, the Examiner is invited to call the undersigned at the telephone number indicated below.

Respectfully submitted,

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